A PROJECT REPORT ON GPA CALCULATOR OOP(OBJECT ORIENTED PROGRAMMIN)

Group (3 Students)

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CONTENT OF PROJECT REPORT

INTRODUCTION ABOUT ASSEMBLY LANGUAGE

As the name suggests, Object-Oriented Programming or OOPs refers to languages that use objects in programming. Object-oriented programming aims to implement real-world entities like inheritance, hiding, polymorphism, etc in programming. The main aim of OOP is to bind together the data and the functions that operate on them so that no other part of the code can access this data except that function.

OOPs Concepts:

- Class
- Objects
- Data Abstraction
- Encapsulation
- Inheritance
- Polymorphism
- Dynamic Binding
- Message Pass

INTRODUCTION ABOUT WINDOWS BULIDER IN JAVA

Eclipse Windows Builder is composed of Eclipse SWT Designer and Eclipse Swing Designer and makes it very easy to create Java GUI applications without spending a lot of time writing code. Use the WYSIWYG visual designer and layout tools to create simple forms to complex windows; the Java code will be generated for you.

HOW DO WE USE WINDOWS BULIDER

1. Go to File -> New -> Other. ...
2. Double click in WindowBuilder folder and then to Swing Designer subfolder.
3. Click to the Application Window and then click Next.
4. Give a Name for your new window and then click Finish. ...
5. Press Run (the "Play" icon of the toolbar) to run your newly created window.

INTRODUCTION ABOUT OUR PROJECT

Grade Point Average, is a number that indicates how well or how high you scored in your courses on average. Grade Point Average (GPA) is a summary statistic that represents a student's average performance in their studies over a stated period of time, such as one semester, an academic year, or an entire academic performance at an institution. Being numerical, GPAs are often calculated to two decimals. They are used as indicators of whether levels of student performance meet some fixed criterion, and for sorting groups of students into rank order.

While GPA scores are universally understood, grading scales differ considerably across institutions and countries. Conversion tables are usually available for comparing grades and GPAs within countries and internationally.

When an entire study program is organized as a collection of units, each period of time gives rise to its own GPA. The most common study period for a course is one semester, usually 12-15 weeks of class. If a full-time student enrolls in four courses in a particular semester, the GPA is calculated as the average performance over those four courses.

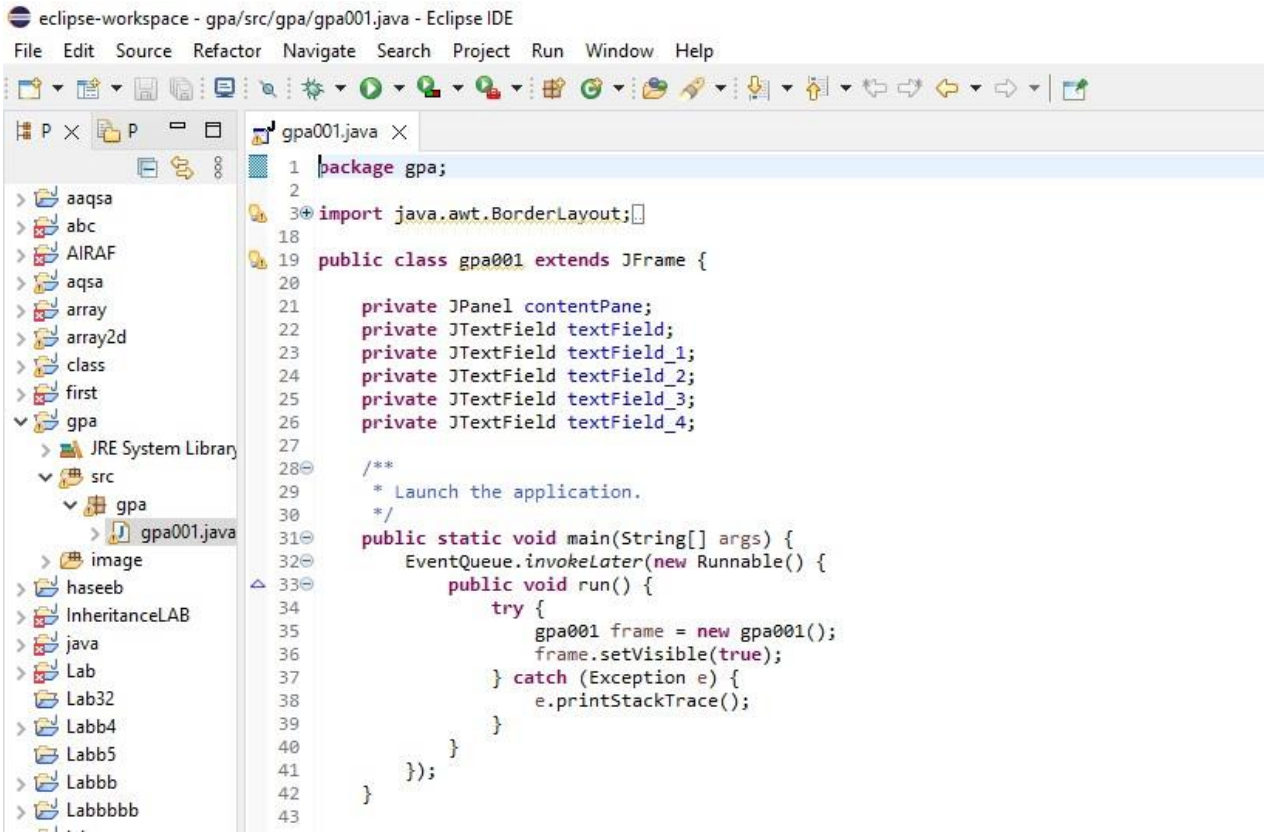
BRIEF DISCRIPTION

A grade point average is a number representing the average value of the accumulated final grades earned in courses over time. More commonly called a GPA, a student's grade point average is calculated by adding up all accumulated final grades and dividing that figure by the number of grades awarded. This calculation results in a mathematical mean—or average—of all final grades. The most common form of GPA is based on a 0 to 4.0 scale (A = 4.0, B = 3.0, C = 2.0, D = 1.0, and F = 0), with a 4.0 representing a "perfect" GPA—or a student having earned straight As in every course. Schools may also assign partial points for "plus" or "minus" letter grades, such as a 3.7 for an A–, a 3.3 for a B+, and so on. GPAs may be calculated at the end of a course, semester, or grade level, and a "cumulative GPA" represents an average of all final grades individual students earned from the time they first enrolled in a school to the completion of their education.

In some schools, weighted-grade systems are used in GPA calculations, and they give students a numerical advantage for grades earned in higher-level courses, such as honors courses or Advanced Placement courses, or for completing more challenging learning experiences. In weighted-grade systems, an A in a higher-level course might be awarded a 4.5 or 5.0, for example, while an A in a lower-level course is awarded a 4.0 (yet weighted grading systems vary widely in design and methodology).

A student's GPA is often used to determine academic honors, such as honor roll, class rank, or Latin honors. GPAs have been one of several major factors used by colleges, postsecondary programs, and employers to assess a student's overall academic record.

CODE SNAPSHOTS



```
43
44      /**
45       * Create the frame.
46       */
47      public gpa001() {
48          setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
49          setBounds(100, 100, 450, 300);
50          contentPane = new JPanel();
51          contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
52          setContentPane(contentPane);
53          contentPane.setLayout(null);
54
55          JLabel lblNewLabel = new JLabel("GPA CALCULATOR");
56          lblNewLabel.setForeground(Color.WHITE);
57          lblNewLabel.setFont(new Font("Tahoma", Font.PLAIN, 22));
58          lblNewLabel.setBounds(118, -3, 181, 56);
59          contentPane.add(lblNewLabel);
60
61          JLabel lblNewLabel_1 = new JLabel("OBJECT ORIENTED PROGRAMMING");
62          lblNewLabel_1.setForeground(Color.WHITE);
63          lblNewLabel_1.setBounds(38, 64, 181, 24);
64          contentPane.add(lblNewLabel_1);
65
66          JLabel lblNewLabel_2 = new JLabel("DIFFERENTIONAL EQUATION");
67          lblNewLabel_2.setForeground(Color.WHITE);
68          lblNewLabel_2.setBounds(38, 96, 181, 14);
69          contentPane.add(lblNewLabel_2);
70
71          JLabel lblNewLabel_2_1 = new JLabel("COMPUTER ARCHITECTURE");
72          lblNewLabel_2_1.setForeground(Color.WHITE);
73          lblNewLabel_2_1.setBounds(38, 121, 181, 14);
74          contentPane.add(lblNewLabel_2_1);
```

gpa001.java

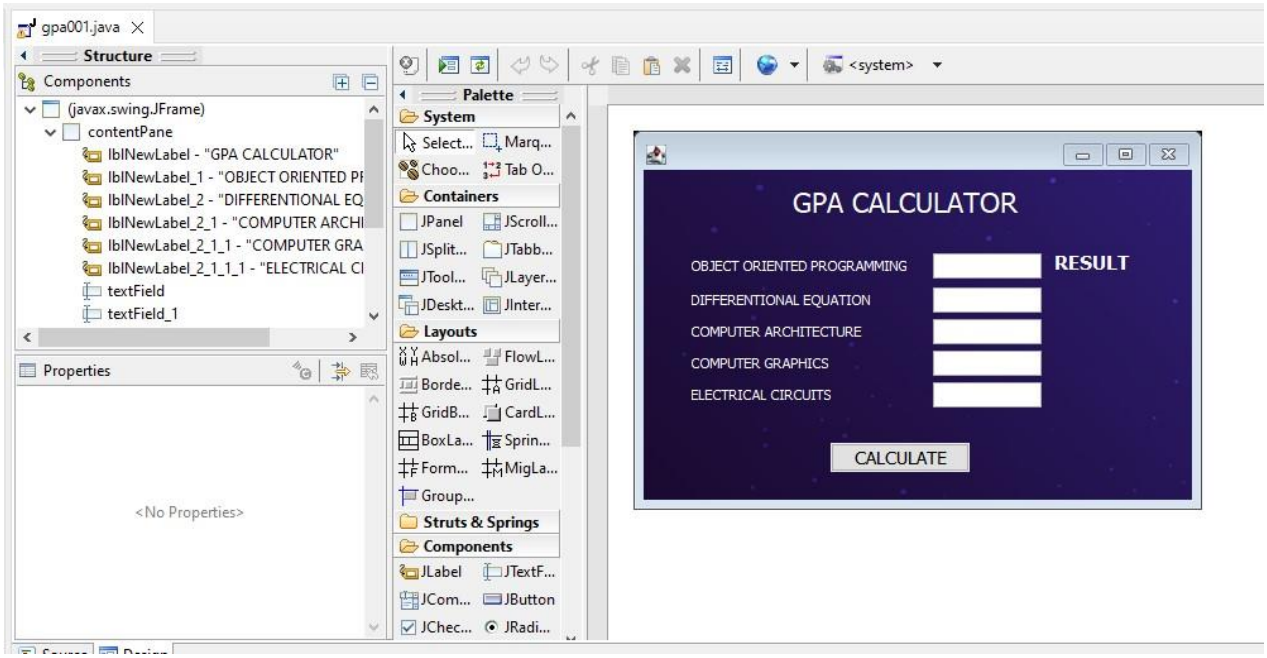
```
75
76          JLabel lblNewLabel_2_1_1 = new JLabel("COMPUTER GRAPHICS");
77          lblNewLabel_2_1_1.setForeground(Color.WHITE);
78          lblNewLabel_2_1_1.setBounds(38, 146, 181, 14);
79          contentPane.add(lblNewLabel_2_1_1);
80
81          JLabel lblNewLabel_2_1_1_1 = new JLabel("ELECTRICAL CIRCUITS");
82          lblNewLabel_2_1_1_1.setForeground(Color.WHITE);
83          lblNewLabel_2_1_1_1.setBounds(38, 171, 181, 14);
84          contentPane.add(lblNewLabel_2_1_1_1);
85
86          textField = new JTextField();
87          textField.setBounds(229, 66, 86, 20);
88          contentPane.add(textField);
89          textField.setColumns(10);
90
91          textField_1 = new JTextField();
92          textField_1.setColumns(10);
93          textField_1.setBounds(229, 93, 86, 20);
94          contentPane.add(textField_1);
95
96          textField_2 = new JTextField();
97          textField_2.setColumns(10);
98          textField_2.setBounds(229, 118, 86, 20);
99          contentPane.add(textField_2);
100
101         textField_3 = new JTextField();
102         textField_3.setColumns(10);
103         textField_3.setBounds(229, 143, 86, 20);
104         contentPane.add(textField_3);
105
```

gpa001.java

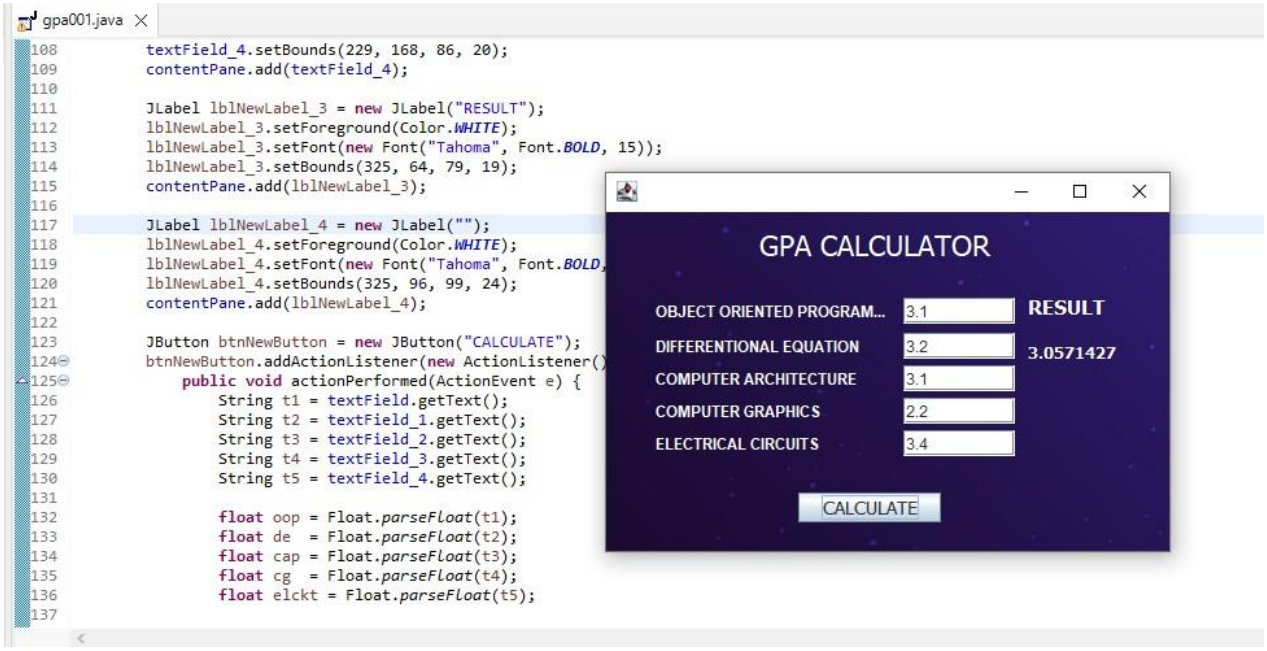
```
106         textField_4 = new JTextField();
107         textField_4.setColumns(10);
108         textField_4.setBounds(229, 168, 86, 20);
109         contentPane.add(textField_4);
110
111         JLabel lblNewLabel_3 = new JLabel("RESULT");
112         lblNewLabel_3.setForeground(Color.WHITE);
113         lblNewLabel_3.setFont(new Font("Tahoma", Font.BOLD, 15));
114         lblNewLabel_3.setBounds(325, 64, 79, 19);
115         contentPane.add(lblNewLabel_3);
116
117         JLabel lblNewLabel_4 = new JLabel("");
118         lblNewLabel_4.setForeground(Color.BLUE);
119         lblNewLabel_4.setFont(new Font("Tahoma", Font.BOLD, 12));
120         lblNewLabel_4.setBounds(325, 96, 99, 24);
121         contentPane.add(lblNewLabel_4);
122
123         JButton btnNewButton = new JButton("CALCULATE");
124         btnNewButton.addActionListener(new ActionListener() {
125             public void actionPerformed(ActionEvent e) {
126                 String t1 = textField.getText();
127                 String t2 = textField_1.getText();
128                 String t3 = textField_2.getText();
129                 String t4 = textField_3.getText();
130                 String t5 = textField_4.getText();
131
132                 float oop = Float.parseFloat(t1);
133                 float de  = Float.parseFloat(t2);
134                 float cap = Float.parseFloat(t3);
135                 float cg  = Float.parseFloat(t4);
136                 float elckt = Float.parseFloat(t5);
137
```

```
137
138             float gpa = (float)(((oop*3.0)+(de*3.0)+(cap*3.0)+(cg*2.0)+(elckt*3.0))/14.0);
139
140             lblNewLabel_4.setText(gpa+"");
141         }
142     });
143     btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 14));
144     btnNewButton.setBounds(148, 216, 110, 23);
145     contentPane.add(btnNewButton);
146
147     JLabel lblNewLabel_5 = new JLabel("");
148     lblNewLabel_5.setIcon(new ImageIcon("C:\\Users\\moiz\\Desktop\\1234.jpg"));
149     lblNewLabel_5.setBounds(0, 0, 434, 261);
150     contentPane.add(lblNewLabel_5);
151 }
152 }
153
```

DESIGN OF GPA CALCULATOR



WORKING OF GPA CALCULATOR



CONCLUSION

After complete execution of code we were able to

successfully compute the gpa of any particular student after entering his/her quality points per subject, and also we have entered whole procedure of calculating gpa in code, by using windows builders concept of java

REFERENCES

https://youtu.be/OW9A5yZ1op0